

CSIT114/814 Task 3: Patient Record and Scheduling System (8 marks)

A patient record and scheduling system in a doctor's office is used by the receptionists, nurses, and doctors. The receptionists use the system to enter new patient information when first-time patients visit the doctor. They also schedule all appointments.

The nurses use the system to keep track of the results of each visit including diagnosis and medications. For each visit, free form text fields are used to capture information on diagnosis and treatment. Multiple medications may be prescribed during each visit. The nurses can also access the information to print out a history of patient visits.

The doctors primarily use the system to view patient history. The doctors may enter some patient treatment information and prescriptions occasionally, but most frequently they let the nurses enter this information.

Each patient is assigned to a family. The head of family is responsible for the person with the primary medical coverage. Information about doctors is maintained since a family has a primary care physician, but different doctors may be the ones seeing the patient during the visit.

A fully developed use case description of "enter new patient information" use case is appended (see the next page).

Provide solutions to the following questions by using the UMLet tool:

- (1) Develop a Use Case Diagram which includes all actors and at least four use cases. (2 marks)
- (2) Develop an Activity Diagram based on the fully developed use case description of the "enter new patient information" use case (i.e., the "flow of activities"). (2 marks)
- (3) Develop a UML Domain Model Class Diagram which includes the domain classes of the system. (4 marks)

Deliverable. For each question above, export your solution in UMLet as a PDF document, name it as "<your_name>_<student_no>_<question_no>.pdf". Submit it to the correct submission dropbox on Moodle before the deadline.

Note. Deadline is specified in the submission dropbox. This is an individual task. Do not outsource your solution to others.

<i>Use case name</i>	<i>Enter new patient information</i>	
<i>Scenario</i>	<i>Enter new patient information when first-time patients visit the doctor</i>	
<i>Triggering event</i>	<i>New patient wants to visit the doctor</i>	
<i>Brief description</i>	<i>Receptionist enters new patient information by entering basic information, such as name, gender.</i>	
<i>Actors</i>	<i>Receptionist</i>	
<i>Related use cases</i>	<i>Null</i>	
<i>Stakeholders</i>	<i>Receptionist</i>	
<i>Preconditions</i>	<i>Patient record subsystem must available.</i>	
<i>Postconditions</i>	<i>New patient account must be created and saved. Patient's basic information must be created and saved. The date of visit must be created and saved.</i>	
<i>Flow of activities</i>	<i>Actor</i>	<i>System</i>
	1. Receptionist indicates the requirement to create patient account. 2. Receptionist enters patient basic information, including name, age and gender. 3. Receptionist enters the date of the visit.	1.1 System creates a new patient. 1.2 System prompts for new patient basic information. 2.1 System stores new patient basic information. 2.2 System prompts for date of the visit. 3.1 System stores date of the visit. 3.2 System associates new patient basic information and date of visit. 3.3 System returns valid new patient account details.
<i>Exception conditions</i>	2.1 The new patient basic information is incomplete. 3.1 the date of visit is not valid.	